

## **CHAPTER 7     AIR QUALITY**

This section addresses project impacts on ambient air quality and the exposure of people to unhealthful pollutant concentrations by analyzing the type and quantity of emissions that would be generated by the development of the proposed project. Air pollutant emission estimates were prepared through the use of the URBEMIS 2001 program developed for the California Air Resources Board. The resulting technical support materials are provided in Appendix C.

### **7.1     SETTING**

DeWitt Center is located in central Placer County, which lies within the Sacramento Valley Air Basin. Air quality in the project vicinity is influenced by both local and distant emission sources. Local sources include the emissions from vehicle traffic on nearby roadways (Atwood Road, Bell Road, State Route 49, and internal project area roads), area sources such as landscaping maintenance, and stationary sources such as residential woodstoves and barbecues as well as local industry. Distant emission sources include the vehicle traffic and various industries in the Sacramento metropolitan area and beyond. Carried to the foothills region by the prevailing southwesterly winds found in the valley, pollutants emitted in Sacramento and the San Francisco Bay area affect local ambient pollutant concentrations. Inversion layers occur when a layer of warm air traps a layer of cold air beneath it, preventing vertical dispersion of air contaminants. These layers are created by seasonal temperatures and contribute to seasonal concentrations of airborne contaminants, elevating air pollution levels.

#### **Climate**

Mild, wet winters and hot, dry summers characterize the climate of central and western Placer County. Precipitation generally occurs between November and April. Prevailing winds are from the south and southwest, and local air quality is influenced by the transportation of emissions from upwind mobile and stationary pollution sources in south Placer County, the Sacramento metropolitan area, and the San Francisco Bay area. Additionally, in the late fall and early spring the Sacramento Valley Air Basin frequently experiences calm atmospheric conditions, contributing to the creation of inversion layers, which results in higher concentrations of pollutants near ground level.

#### **Air Contaminants**

Ozone (O<sub>3</sub>), carbon monoxide (CO), and particulate matter (PM<sub>10</sub>) are pollutants of particular concern in the area. Under the air quality standards mandated by the California Clean Air Act, the Sacramento Valley Air Basin is currently in non-attainment for particulate matter and is designated as serious non-attainment for O<sub>3</sub>. This air basin is also in non-attainment for federal O<sub>3</sub> standards under the Federal Clean Air Act. South Placer County is a federal maintenance area for carbon monoxide standards. This region was in non-attainment for federal CO standards until 1998. As shown in the tables included in this discussion, violations of O<sub>3</sub> and particulate matter standards have occurred and continue to occur within the region.

#### **Ozone**

O<sub>3</sub> concentrations that exceed state standards primarily occur between May and October when inversion layers are formed and “sunlight and hot weather cause ground-level O<sub>3</sub> to form in

harmful concentrations" (U.S. Environmental Protection Agency [EPA] 2000a). Ozone itself is not a direct emission. It results from atmospheric chemical reactions between reactive organic compounds (ROC) and nitrogen oxides (NO<sub>x</sub>), which are discharged into the air from motor vehicle emissions and the evaporation of various organic compounds (e.g., fuels and solvents). Rather than being the result of a few significant emission sources, O<sub>3</sub> concentrations are the cumulative effect of regional development patterns and associated traffic movements. Current projections for 2005 summer emissions show that 72% of the O<sub>3</sub>-forming emissions within the Sacramento federal O<sub>3</sub> non-attainment area will come from mobile sources, including on-road vehicles, off-road equipment, farm equipment, boats, aircraft, trains, and heavy duty trucks, while stationary/area sources, such as power plants, consumer products, coating and cleaning solvents, agricultural pumps, and petroleum production and marketing will contribute 28% of the emissions (Sacramento Metropolitan Air Quality Management District [SMAQMD] 2003). Generally, the NO<sub>x</sub> concentration is similar to the O<sub>3</sub> concentration, and O<sub>3</sub> levels rapidly decline once the precursors have been depleted. *Table 7.1* shows measured O<sub>3</sub> levels in the project vicinity. There has been a decline in the average number of days that measured O<sub>3</sub> levels in the region exceeded the California standards of 0.09 parts per million (ppm) since 1992. "The overall rate of population exposure to ozone is down, and the number of days and hours over the standard are also trending down" (SMAQMD 2003). The average annual number of days above the standard between 1992 and 1997 are 21.83 and 25.83 for the Auburn and Rocklin stations, respectively, and 20.75 and 17.60, respectively, between 1998 and 2002. Since 2000, the Colfax station has not recorded any days above state or federal standards for O<sub>3</sub>.

**Table 7.1**  
**Air Quality Data Summary, 1992-2001 Ozone Levels (ppm)**

Station	Year	Days above Standard			1-Hour Observations		8-Hour Averages	
		1-Hour		8-Hour	Maximum	3-Year Average 4 <sup>th</sup> Highest	Maximum	3-Year Average 4 <sup>th</sup> Highest
		State	Federal	Federal				
Auburn	1992	36	3	26	0.140	0.140	0.122	0.105
	1993	15	0	15	0.120	0.130	0.107	0.101
	1994	28	4	25	0.133	0.130	0.117	0.102
	1995	26	2	18	0.148	0.131	0.119	0.105
	1996	22	1	17	0.125	0.131	0.110	0.103
	1997	4	0	1	0.106	0.124	0.089	0.095
	1998	15	5	16	0.144	0.126	0.113	0.095
	1999	24	2	25	0.142	0.132	0.106	0.097
	2000	22	0	17	0.124	0.132	0.107	0.102
	2001	22	0	21	0.118	0.123	0.107	0.101
	2002	16	3	15	0.136	0.124	0.115	0.101
Rocklin	1992	41	7	24	0.170	0.130	0.122	0.102
	1993	21	3	9	0.150	0.140	0.120	0.101
	1994	29	1	19	0.128	0.140	0.106	0.103
	1995	25	3	17	0.146	0.133	0.106	0.100
	1996	30	1	20	0.130	0.129	0.110	0.100
	1997	9	0	4	0.113	0.129	0.096	0.095

Station	Year	Days above Standard			1-Hour Observations		8-Hour Averages	
		1-Hour		8-Hour	Maximum	3-Year Average 4 <sup>th</sup> Highest	Maximum	3-Year Average 4 <sup>th</sup> Highest
		State	Federal	Federal				
Rocklin	1998	16	3	12	0.143	0.130	0.119	0.094
	1999	17	3	11	0.128	0.128	0.111	0.092
	2000	16	0	12	0.118	0.128	0.098	0.093
	2001	18	1	8	0.128	0.127	0.097	0.091
	2002	21	2	15	0.135	0.119	0.111	0.092
Colfax	1992	17	1	12	0.130	0.110	0.098	0.092
	1993	9	0	4	0.120	0.110	0.097	0.092
	1994	15	0	12	0.122	0.120	0.107	0.092
	1995	16	1	11	0.130	0.119	0.100	0.092
	1996	4	0	5	0.108	0.117	0.091	0.091
	1997	2	0	2	0.10	0.109	0.097	0.086
	1998	11	1	8	0.132	0.103	0.108	0.086
	1999	9	1	9	0.159	0.105	0.093	0.86
	2000	10	0	5	0.119	0.115	0.095	0.089
	2001	0	0	0	0.044	0.106	NA	NA
	2002	0	0	0	0.044	0.106	NA	NA

Source: California Air Resources Board 2003a

### Carbon Monoxide

“Carbon monoxide, or CO, is a colorless, odorless gas that is formed when carbon in fuel is not burned completely. It is a component of motor vehicle exhaust, which contributes about 56 percent of all CO emissions nationwide,” while in urban areas, as much as 85 to 95 percent of CO emissions may be from mobile sources (EPA 2000b). High concentrations of CO are generally a localized wintertime pollution problem, the result of a combination of traffic volumes, traffic congestion, and atmospheric conditions. State standards for CO concentrations are 20 ppm in a 1-hour period and 9 ppm over an 8-hour period. Increased potential for violations of air quality standards occurs when vehicles are in a “cold start” operating mode, idling, or at low speeds. Intersections are usually the “hot spots” where violations occur. These violations are normally short-term because CO tends to dissipate rapidly into the atmosphere. The monitoring station for CO nearest to the project area is on North Sunrise Boulevard in Roseville. The state and federal 8-hour average standards for CO have not been exceeded at this station since it began measuring CO in 1993 (California Air Resources Board [CARB] 2003b). Another station on Rocklin Road in Rocklin measured CO from 1991 to 1996; 8-hour average standards were not exceeded there, either (CARB 2003b).

### Particulate Matter

Particulate matter is a type of air pollution that consists of varying mixtures of particles suspended in the air. Particulate matter less than 2.5 microns in diameter is referred to as PM<sub>2.5</sub>, or fine particles. Particulate matter between 2.5 and 10 microns in diameter is referred to as PM<sub>10</sub>, or coarse particles. (In comparison, a human hair is about 75 microns in diameter.) Both the State of California and the EPA regulate coarse particles, while only the EPA regulates fine

particles. The EPA's fine particle standard was adopted in July 1997 and is being phased in over six years; no monitoring stations for PM<sub>2.5</sub> have been established yet in the project vicinity. The station on North Sunrise Boulevard in Roseville recorded one day above the national standard for PM<sub>10</sub> in 1999 (CARB 2003c).

Major sources of coarse and fine particles include agricultural burning, construction activities, wood burning stoves, vehicle exhaust, wind-blown dust, vehicles traveling on unpaved roads, materials handling, and crushing and grinding operations. Particulate matter emissions can result in environmental effects such as reduced visibility, water pollution (as particulates settle out of the air and into water bodies), degradation of vegetation (as particulates settle on leaves as dust), and damage to structures (EPA 2000c). Particulate matter can injure crops, trees, and shrubs, as well as cause damage to other surfaces, such as metal and fabrics, through chemical reactions. Fine particles also impair visibility by scattering light and reducing the visual range in urban, rural, and wilderness areas. The haze caused by fine particles can diminish crop yields by reducing sunlight.

State standards for PM<sub>10</sub> are 50 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ; a microgram is one one-millionth of a gram) averaged over a 24-hour period and 30  $\mu\text{g}/\text{m}^3$  for an annual geometric mean. The federal standard is 150  $\mu\text{g}/\text{m}^3$  for a 24-hour period. The federal standard for PM<sub>2.5</sub> is 65  $\mu\text{g}/\text{m}^3$  measured over a 24-hour period and 15  $\mu\text{g}/\text{m}^3$  averaged over a year. Table 7.2 presents measured PM<sub>10</sub> levels at area sampling stations. As shown, these measured PM<sub>10</sub> levels have exceeded the California standard several times since 1992.

**Table 7.2**

**Air Quality Data Summary, 1992-1996 Measured PM<sub>10</sub> Levels ( $\mu\text{g}/\text{m}^3$ )**

<b>Station</b>	<b>Year</b>	<b>State</b>	<b>Federal</b>	<b>Annual</b>	<b>Geometric</b>	<b>3-Year Average</b>	<b>Maximum Observation</b>
Rocklin	1991	6	NA	45.7	7.1	NA	55
	1992	0	NA	25.9	15.7	NA	48
	1993	0	0	20.3	21.3	15	41
	1994	3	0	21.8	23.1	20	51
	1995	3	0	20.8	21.5	22	55
	1996	0	0	16.6	18.3	21	34
	1997	0	0	19.0	19.9	20	43
	1998	1	0	16.6	19.4	19	70
	1999	24	0	21.3	24.8	21	75
	2000	0	0	19.8	20.8	22	46
	2001	12	0	18.8	20.9	22	57
	2002	0	NA	20.2	21.7	21	36
Roseville	1993	6	0	23.4	24.3	NA	52
	1994	15	0	23.3	25.0	NA	65
	1995	6	0	22.8	23.4	24	61

<b>Station</b>	<b>Year</b>	<b>State</b>	<b>Federal</b>	<b>Annual</b>	<b>Geometric</b>	<b>3-Year Average</b>	<b>Maximum Observation</b>
Roseville	1996	0	0	19.2	20.8	23	39
	1997	0	0	20.8	21.8	22	50
	1998	13	0	19.4	22.3	22	67
	1999	24	0	22.5	26.1	23	89
	2000	6	0	22.1	23.9	24	58
	2001	18	0	21.8	24.2	25	59
	2002	6	0	22.1	24.6	24	58
Truckee <sup>a</sup>	1988	0	NA	35.0	3.3	NA	35
	1996	0	NA	15.9	21.8	NA	49
	1997	62	NA	27.4	31.0	NA	136
	1998	18	NA	21.9	22.1	25	71
	1999	0	NA	25.9	27.9	27	44
	2000	0	NA	19.2	14.6	22	50

NA no data available

<sup>a</sup> No data available for this station between 1989 and 1995.

Source: California Air Resources Board 2003

## Health Effects

Air pollution affects everyone to some degree, however pregnant women, children, the elderly, and people with respiratory or cardiovascular disease are more susceptible to experiencing health effects from air pollution. Even at low concentrations, ground-level O<sub>3</sub> can adversely affect everyone (EPA 2000a). In relatively low concentrations, O<sub>3</sub> can damage vegetation, crack rubber, and irritate the lungs and respiratory system when inhaled. At higher concentrations, O<sub>3</sub> can impact public health by directly affecting the lungs, causing respiratory irritation and reduction in lung function. Lung flow and air passage through lung tissues can be seriously decreased, resulting in symptoms such as coughs, chest discomfort, headaches, and eye irritation. "Repeated exposure to ozone pollution for several months may cause permanent lung damage" (EPA 2000a). Persons suffering from asthma, bronchitis, other respiratory ailments, and cardiovascular disease are particularly susceptible to O<sub>3</sub>, as well as children and persons engaged in heavy exercise, but "even healthy people that are active outdoors can be affected when ozone levels are high" (EPA 2000a). At high concentrations, this pollutant can cause severe damage to the lungs.

Inhaled CO passes through the lungs to enter the blood stream, interfering with the transfer of oxygen to the blood. This reduces the amount of oxygen that reaches the muscles, including the heart, brain, and other body tissues – resulting in adverse cardiovascular and central nervous system effects. Even in healthy adults, CO inhalation can result in drowsiness, fatigue, inability to concentrate, nausea, headache, changes in heart function, impairment of vision, and slowed reflexes. At very high concentrations, CO inhalation can be fatal (EPA 2000b).

Particulate matter causes harm when inhaled particulates lodge deep within the lungs, causing health problems as the human immune system reacts to the presence of these foreign particles. Fine particles can lodge deeper within the lungs than coarse particles, posing a more serious

health threat. Scientific studies have linked inhaled PM to several significant health problems, including “aggravated asthma, increases in respiratory symptoms like coughing and difficult or painful breathing, chronic bronchitis, decreased lung function, and premature death” (EPA 2000c). Very small particulates of certain substances can cause direct lung damage or can contain absorbed gasses that may be harmful. Populations that are especially sensitive to the health effects of exposure to particulate matter include children, the elderly, exercising adults, individuals with influenza, asthmatics, and those who suffer from chronic obstructive pulmonary disease. “Health problems for sensitive people can get worse if they are exposed to high levels of PM for several days in a row” (EPA 2000c), and “both short- and long-term exposures to PM have been shown to lead to harmful health effects” (CARB 2003b). Recent studies suggest that prolonged exposure to PM may affect the growth and functioning of children’s lungs; other studies have found an association between fine particle air pollution and premature death related to decreases in cardiopulmonary functions. “In addition, scientists have observed higher rates of hospitalizations, emergency room visits and doctor’s visits for respiratory illnesses or heart disease during times of high PM concentrations” (CARB 2003b).

## **7.2 REGULATORY FRAMEWORK**

The proposed project is in the Sacramento Valley Air Basin, one of 14 air basins in the state; Placer County is one of 11 counties within this air basin. The County’s Air Pollution Control District (APCD) has the primary responsibility for attainment and maintenance of air quality standards within their jurisdiction. The project area is also subject to the regulations of the Sacramento Air Quality Maintenance Area, CARB, and EPA. Both the State of California and the EPA have established and published air quality standards as shown in *Table 7.3*. In 1994, the Placer County APCD developed the *Air Quality Attainment Plan*, which presents mitigation strategies for reducing emission concentrations and to meet state and federal air quality standards. Additionally, the Lead Agency will use the policies contained in the *Placer County General Plan* and the *Auburn/Bowman Community Plan* related to air quality to evaluate the proposed project. This section provides a list of those policies, ordinances, and regulations that will be used to evaluate and implement this project.

### **Federal and State Air Quality Regulations**

On both the federal and state levels, a distinction is made for regulatory purposes between “criteria air pollutants” and “toxic air pollutants.” Criteria air pollutants are those for which health-based concentration standards were first promulgated under the 1970 amendments to the Federal Clean Air Act. Regulation of criteria air pollutants is achieved through federal and state ambient air quality standards (AAQS) and emission limits for individual sources. Air toxics, also referred to as Hazardous Air Pollutants, are airborne substances that are capable of causing short-term (acute) and/or long-term (chronic or carcinogenic) adverse human health effects. Hazardous Air Pollutants are controlled through regulations on individual sources of these pollutants.

#### ***Federal Regulations***

As required by the Federal Clean Air Act, the EPA established federal AAQS for the original six criteria air pollutants identified in the Federal Clean Air Act: ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, suspended particulate matter, and lead. Standards for these pollutants

are listed in Table 7-3. These standards represent the levels of air quality, with an adequate margin of safety, necessary to protect the public health and welfare.

**Table 7.3**  
**Ambient Air Quality Standards**

<b>Pollutant (measurement)</b>	<b>Averaging Time</b>	<b>Standard</b>	
		<b>State</b>	<b>Federal</b>
Carbon monoxide (ppm)	8 hours	9	9
	1 hour	20	35
Nitrogen dioxide (ppm)	Annual mean	--	0.053
	1 hour	0.25	--
Ozone (ppm)	1 hour	0.09	0.12
	8 hours	--	0.08
Lead ( $\mu\text{g}/\text{m}^3$ )	Quarterly	--	1.5
	30 days	1.5	--
Particulate matter less than 10 microns in diameter ( $\mu\text{g}/\text{m}^3$ )	Annual mean	20 <sup>a</sup>	50
	24 hours	50	150
Particulate matter less than 2.5 microns in diameter ( $\mu\text{g}/\text{m}^3$ )	Annual mean	12 <sup>a</sup>	15
	24 hours	--	65
Sulfur dioxide (ppm)	Annual mean	--	0.03
	24 hour	0.04	0.14
	3 hour	--	0.50 <sup>b</sup>
	1 hour	0.25	--

Notes:

-- no standard

ppm parts per million

$\mu\text{g}/\text{m}^3$  micrograms per cubic meter

California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1-hour), nitrogen dioxide, suspended particulate matter (PM10), and visibility reducing particles are values that are not to be exceeded. The sulfur dioxide (24-hour), sulfates, Lake Tahoe carbon monoxide, lead hydrogen sulfide and vinyl chloride standards are not to be equaled or exceeded.

National standards, other than ozone and those based on annual averages or arithmetic means are not to be exceeded more than once a year. The ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standard is equal to or less than one.

**a** On June 20, 2002, the Air Resources Board approved staff's recommendation to revise the PM10 annual average standard to 20  $\mu\text{g}/\text{m}^3$  and to establish an annual average standard for PM2.5 of 12  $\mu\text{g}/\text{m}^3$ . These standards will take effect on final approval by the Office of Administrative Law, which is expected in May 2003. Information regarding these revisions can be found at <http://www.arb.ca.gov/research/aaqs/std-rs/std-rs.htm>.

**b** This is a secondary standard.

Source: California Air Resources Board

The Federal Clean Air Act requires the states to classify air basins (or portions thereof) as either "attainment" or "non-attainment" with respect to the criteria air pollutants, based on whether or not the federal AAQS have been achieved, and to prepare air quality plans containing

emission reduction strategies for those areas designated as “non-attainment.” The project area is located in the Sacramento Valley Air Basin, which is in severe non-attainment for federal O<sub>3</sub> standards. If attainment is not demonstrated by 2005, substantial financial penalties and/or stricter air quality standards could be imposed on all jurisdictions within the Sacramento Valley Air Basin, including Placer County.

Until 1998, the Sacramento Valley Air Basin was classified as “non-attainment” with respect to the federal CO standards. Currently, the Sacramento Valley Air Basin is considered a federal planning area for CO standards. A federal planning area is a basin that was in non-attainment and needs to demonstrate compliance with the federal standards for two consecutive years and to develop a maintenance plan demonstrating that emission levels will remain in compliance for at least ten years to achieve attainment again (CARB 1998).

### **State Regulations**

The State of California has established its own ambient standards for the criteria pollutants, which are presented with the federal AAQS in *Table 7-3*. These standards are referred to as state AAQS and are equal to or more stringent than their federal counterparts. State AAQS have also been established for certain pollutants not covered by the federal AAQS, such as hydrogen sulfide and vinyl chloride. Placer County has been designated as non-attainment for state AAQS for O<sub>3</sub> and PM<sub>10</sub>, and is unclassified for CO (meaning there is not enough data to classify the region attainment or non-attainment for this pollutant) (CARB 2003c). Placer County has been designated as attainment for all other criteria air pollutants.

### **Sacramento Area Regional Ozone Attainment Plan**

The Federal Clean Air Act requires non-attainment areas to develop air quality plans that contain strategies for achieving attainment. In response to the non-attainment designation of the Sacramento Valley Air Basin with respect to federal O<sub>3</sub> standards, the three Air Quality Management Districts and two Air Pollution Control Districts in the Sacramento region developed the Sacramento Area Regional Ozone Attainment Plan, also known as the 1994 State Implementation Plan (SIP). This document identifies a comprehensive regional strategy to reduce O<sub>3</sub> levels in the region. The SIP focuses on reducing emissions of ROC and NO<sub>x</sub>, as these pollutants are the precursors to O<sub>3</sub>. To attain a one-ton-per-day reduction in ROC and NO<sub>x</sub> emissions the SIP requires implementation of transportation control measures and land use control measures.

### **Local Regulations**

#### **Placer County 1991 Air Quality Attainment Plan**

The 1988 California Clean Air Act also requires non-attainment areas to develop air quality plans for achieving attainment. In accordance with this regulation, the Placer County APCD developed the 1991 Air Quality Attainment Plan, which discusses policy goals and guidelines for achieving air quality standards. This Plan focuses on reducing emissions of ROC and NO<sub>x</sub> as a way to combat the high O<sub>3</sub> concentrations in Placer County. Strategies to reach “attainment” levels of O<sub>3</sub> include stationary source controls, transportation control measures, indirect source control measures, and coordination with the Placer County Transportation Planning Agency in development of the County Congestion Management Program.



### **Auburn/Bowman Community Plan**

The *Auburn/Bowman Community Plan's* Air Quality section of the Environmental Resources Management Element provides guidance in land use and development policies for implementation by the Placer County APCD. The following *Auburn/Bowman Community Plan* policies are applicable to the proposed project:

#### **Goals IV.B.6.a**

1. Protect and improve air quality in the Auburn area.
  2. Assure Placer County's compliance with state and federal air quality standards.
- 6.B.5 Use Indirect Source Control Program strategies for all subsequent, new or revised land uses within the Plan area to reduce emissions. These are to be developed in the EIR for the Plan area and applied through individual land use performance standards.
- 6.B.6 Use Direct Source Review as outlined in the EIR for the Plan to reduce emissions from existing land uses.
- 6.B.7 Produce mitigations for air quality impacts associated with adoption of the Community Plan and include them in the monitoring plan.
- 6.B.9 Projects which result in 200 or more trip-ends may require an air quality analysis to be submitted for review and approval.

### **Placer County General Plan**

The *Placer County General Plan* Air Quality section of the Natural Resources Element provides guidance in land use and development policies for implementation by the Placer County APCD (PCAPCD). The following General Plan policies are applicable to the proposed project:

**Goal 6.F** To protect and improve air quality in Placer County.

- 6.F.2 The County shall develop mitigation measures to minimize stationary source and area source emissions.
- 6.F.5 The County shall encourage project proponents to consult early in the planning process with the County regarding the applicability of countywide indirect and area wide source programs and transportation control measures (TCM) programs. Project review shall also address energy-efficient building and site designs and proper storage, use, and disposal of hazardous materials.
- 6.F.6 The County shall require project level environmental review to include identification of potential air quality impacts and designation of design and other appropriate mitigation measures or offset fees to reduce impacts. The County shall dedicate staff to work with project proponents and other agencies in identifying, ensuring the implementation of, and monitoring the success of mitigation measures.
- 6.F.7 The County shall encourage development to be located and designated to minimize direct and indirect air pollutants.

- 6.F.8 The County shall submit development proposals to the PCAPCD for review and comment in compliance with CEQA prior to consideration by the appropriate decision-making body.
- 6.F.9 In reviewing project applications, the County shall consider alternatives or amendments that reduce emissions of air pollutants.
- 6.F.10 The County may require new development projects to submit an air quality analysis for review and approval. Based on this analysis, the County shall require appropriate mitigation measures consistent with the PCAPCD's 1991 Air Quality Attainment Plan (or updated edition).
- 6.F.11 The County shall apply the buffer standards described on page 20 in Part I of this Policy Document and meteorological analysis to provide separation between possible emission/nuisance sources (such as industrial and commercial uses) and residential uses.
- Goal 6.G** To integrate air quality planning with the land use and transportation planning process.
- 6.G.1 The County shall require new development to be planned to result in smooth flowing traffic conditions for major roadways. This includes traffic signals and traffic signal coordination, parallel roadways, and intra- and inter-neighborhood connections where significant reductions in overall emissions can be achieved.
- 6.G.3 The County shall encourage the use of alternative modes of transportation by incorporating public transit, bicycle, and pedestrian modes in County transportation planning and by requiring new development to provide adequate pedestrian and bikeway facilities.

### 7.3 IMPACTS

#### Significance Criteria

Appendix G of the CEQA Guidelines provides the following criteria for determining the significance of the impact of project-generated air pollutant emissions on regional air quality. A project would be considered to have significant impacts if it:

- Conflicts with or obstructs implementation of the applicable air quality plan,
- Violates any air quality standard or contributes substantially to an existing or projected air quality violation,
- Results in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for O<sub>3</sub> precursors),
- Exposes sensitive receptors to substantial pollutant concentrations, or
- Creates objectionable odors affecting a substantial number of people.

The Placer County APCD is responsible for compliance with State and federal air quality standards (Table 7.3). The Placer County APCD has established the New Source Review Rule that presents thresholds of pollutant emissions above which application of Best Available Control Technology is required on both new and modified emissions sources. These thresholds, listed in Table 7.4, serve as air quality standards and can be used to determine the significance of air quality impacts under the second significance criterion listed above. Project emissions that exceed threshold values could have a significant effect on regional air quality and the attainment of federal and state standards. An air quality impact would be significant if the proposed project is anticipated to generate emissions in excess of the APCD Significance Thresholds. Emissions that exceed the thresholds for implementation of mitigation measures require mitigation. However, if the emissions continue to exceed the thresholds for implementation of mitigation measures following implementation of applicable measures, the impact is not significant.

**Table 7.4**  
**APCD Thresholds (pounds per day)**

<b>Air Contaminant</b>	<b>Thresholds for Implementation of Mitigation Measures</b>	<b>Significance Thresholds</b>
Reactive organic compounds (ROC/TOC)	10	82
Nitrogen oxides (NO <sub>x</sub> )	10	82
Sulfur oxides (SO <sub>x</sub> )	10	136
Particulate matter less than 10 microns in diameter (PM <sub>10</sub> )	82	82
Carbon monoxide (CO)	550	550

Source: Placer County Air Pollution Control District

## **Project Impacts**

### **Impacts Determined to be Less Than Significant**

**Conflict with or Obstruct Implementation of the Applicable Air Quality Plan.** The project area is governed by the 1991 Air Quality Attainment Plan developed by Placer County APCD. This Plan focuses on reducing emissions of ROC and NO<sub>x</sub> as a way to combat the high O<sub>3</sub> concentrations in Placer County through implementation of stationary source controls, transportation control measures, and indirect source control measures. As discussed in CHAPTER 6, TRANSPORTATION AND CIRCULATION, the proposed project is expected to result in an increase of employment levels in certain County departments and minor changes in existing circulation patterns. Implementation of the proposed project is expected to accommodate 180 new employees at DeWitt Center by 2010. Concurrently, the County is in the process of implementing plans for construction of a new justice center in southern Placer County. This facility is being constructed in phases, with completion of most phases expected in 2007. It would accommodate the transfer of 249 employees out of DeWitt Center. Some transfers would occur at the end of 2005 and the rest in 2007. Therefore there will be a net decrease in staff at DeWitt Center of 69 personnel by 2010, and vehicular emissions of ROC and NO<sub>x</sub> will decline. Additionally, the implementation of Best Available Control Technology, as required under Mitigation Measure 7.1a, will minimize ROC and NO<sub>x</sub> emissions from other sources associated with the proposed project.

**Violate Any Air Quality Standard as a Result of Operational Emissions.** The Placer County **APCD Significance Thresholds** shown in *Table 7.4* serve as local air quality standards. In addition, Placer County is designated as non-attainment for PM<sub>10</sub> and severe non-attainment for O<sub>3</sub>, which is formed through reactions between NO<sub>x</sub> and ROC. Emissions of these pollutants in excess of the **APCD Significance Thresholds** could contribute to the existing air quality standards violations. Operational emissions are those that occur during operation of the proposed project, including emissions from onsite stationary sources (such as building heating and cooling equipment and power generators), landscape maintenance activities, and mobile sources (most commonly daily traffic trips to and from the project area).

### **Stationary Sources**

Stationary emission sources within the project (referred to as Area Sources by the URBEMIS 2001 program) include water heaters, building heating and cooling systems, power generators, and landscape maintenance equipment and chemicals. Fireplaces and woodstoves are not included in the variables for stationary sources associated with the proposed project as these types of amenities are not used in office buildings and will not be included in the Children's Emergency Shelter or Women's Center (CES or WC) facilities.

The open burning of construction debris (i.e., scrap lumber, packaging material), if it occurred, could contribute to stationary source emissions. As stated by the Placer County APCD, this type of burning is strictly prohibited by District Rule, as well as County and State rules and regulations. The open burning of wood and vegetative waste materials during construction could also result in increased emissions. The County does not propose to dispose of vegetative material through burning.

*URBEMIS 2001 Inputs for Analysis of Stationary Source Emissions.* The URBEMIS 2001 program estimates "Area Source" project emissions based on the use of natural gas and landscape maintenance activities. Full details of the changes made to the variables used to estimate emissions from stationary sources are included in Appendix C.

### **Mobile Sources**

As described in **CHAPTER 6, TRANSPORTATION AND CIRCULATION**, the proposed development will accommodate 180 new employees at DeWitt Center, which currently has a staffing level of 1,917 people. DKS Associates prepared a Transportation Impact Analysis for the proposed project (Appendix B). That analysis included a "cordon count" for all entrances and exits to DeWitt Center in the spring of 2002, which found that DeWitt Center currently produces approximately 16,800 daily trips. While not all traffic trips to and from DeWitt Center are made by employees, for evaluation purposes this EIR uses a traffic generation rate of 8.77 daily trips per employee. Therefore, the anticipated 180 new employees will result in approximately 1,578 new daily vehicle trips.

*URBEMIS 2001 Inputs for Analysis of Vehicular Emissions.* The URBEMIS 2001 program provides an estimate of mobile source project emissions at buildout of the proposed project (2010) and under a cumulative year 2020 scenario. The program considers the traffic trip generation rate, the vehicle fleet mix (i.e., percentages of light duty autos, light duty trucks, heavy duty trucks, motorcycles, etc), the average length of vehicle trips originating and ending at the project area, and proposed provision of sidewalks and trails, bicycle facilities, and street lights and trees in

calculating total vehicle emissions generated by a project. The values used for these variables can be found in the technical information materials in Appendix C.

### Impact Analysis by Project Phase

Individual impact analysis is provided for each project phase, as described in **CHAPTER 2, PROJECT DESCRIPTION**. The phases that include building demolition or transfers of employees, Phases A, E, F, G, H, I, and J, will not generate any new traffic trips. Those phases are excluded from the analysis of operational emissions. Phase B consists of construction of the Land Development Building (LDB), which is expected to accommodate 87 new employees by 2010. Phase C consists of construction of the Auburn Justice Center (AJC), which will accommodate 29 new employees. Phase D consists of the rough grading and provision of infrastructure for the CES and WC projects. Although construction of the CES and WC facilities is not included in the currently proposed project, construction is anticipated within the timeframe of the DeWitt Government Center Facility Plan. This EIR provides a program level analysis of CES and WC construction, including preliminary evaluation of the air quality impacts associated with both facilities. This analysis will be revisited during subsequent project-level environmental review for both projects.

#### Phase B

The LDB is proposed to consist of ±95,000 square feet and will accommodate 87 new employees by 2010. Stationary sources of air pollutants will include building heating and cooling equipment, landscaping maintenance, and 763 new daily traffic trips. The emissions estimated by the URBEMIS 2001 program are presented in *Table 7.5*.

**Table 7.5**  
**Phase B Unmitigated Operational Emissions**

Pollutant	Emissions by Year and Season							
	Year 2010				Year 2020			
	Stationary		Mobile		Stationary		Mobile	
	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter
ROC	0.08	0.05	8.02	6.60	0.08	0.05	4.94	3.90
NO <sub>x</sub>	0.64	0.63	4.06	6.30	0.64	0.63	2.48	3.95
CO	0.53	0.25	68.00	62.40	0.53	0.25	48.78	44.41
PM <sub>10</sub>	0.00	0.00	3.43	3.43	0.00	0.00	3.42	3.42
SO <sub>x</sub>	0.00	0.00	0.03	0.02	0.00	0.00	0.03	0.02

Source: URBEMIS 2001

None of these emissions exceed the **APCD Significance Thresholds** or the APCD thresholds for implementation of mitigation measures. In addition, elements of the proposed project, including provision of a section of a Class 1 trail, sidewalks, shade trees, and street lighting will serve to improve opportunities for use of alternative transportation, thus potentially lowering the actual air pollutant emissions. Operation of Phase B of the proposed project will generate less than significant emissions and will not violate any air quality standards.

### Phase C

The AJC is proposed to consist of  $\pm 67,000$  square feet of building space in the main building, with an additional  $\pm 28,000$  square feet in the ancillary building. The justice facilities will accommodate 29 new employees by 2010. Stationary sources of air pollutants will include building heating and cooling equipment, landscaping maintenance, and 254 new daily traffic trips. The emissions estimated by the URBEMIS 2001 program are presented in Table 7.6.

Table 7.6

#### Phase C Unmitigated Operational Emissions

Pollutant	Emissions by Year and Season							
	Year 2010				Year 2020			
	Stationary		Mobile		Stationary		Mobile	
	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter
ROC	0.08	0.05	4.20	2.24	0.08	0.05	2.69	1.35
NO <sub>x</sub>	0.64	0.63	1.35	2.10	0.64	0.63	0.83	1.32
CO	0.53	0.25	22.61	20.75	0.53	0.25	16.28	14.82
PM <sub>10</sub>	0.00	0.00	1.14	1.14	0.00	0.00	1.14	1.14
SO <sub>x</sub>	0.00	0.00	0.01	0.01	0.00	0.00	0.01	0.01

Source: URBEMIS 2001

None of these emissions exceed the **APCD Significance Thresholds** or the APCD thresholds for implementation of mitigation measures. As with the LDB, elements of the proposed AJC, including provision of a section of a Class 1 trail, sidewalks, shade trees, and street lighting will serve to improve opportunities for use of alternative transportation, thus potentially lowering the actual air pollutant emissions. Operation of Phase C of the proposed project will generate less than significant emissions and will not violate any air quality standards.

### Phase D

The CES and WC facilities are proposed to consist of a total of  $\pm 36,500$  square feet of building space in three buildings and up to ten independent dwelling units of 800 square feet each. The CES will accommodate six new employees and 27 new clients by 2010. The new clients will be children, and therefore will not drive. The WC is anticipated to accommodate seven new employees and five new clients by 2010. For the purposes of this programmatic-level analysis, the clients of the WC are assumed to generate 8.77 traffic trips per day as that is the average trip generation per employee for land uses at DeWitt Center. This analysis will be revisited during subsequent project-level environmental review for the both the CES and WC projects. Stationary sources of air pollutants will include building heating and cooling equipment, landscaping maintenance, "consumer products" (i.e., hairspray and cleaning products) and 158 new daily traffic trips. The emissions estimated by the URBEMIS 2001 program are presented in Table 7.7.

**Table 7.7**  
**Phase D Unmitigated Operational Emissions**

<b>Pollutant</b>	<b>Emissions by Year and Season</b>							
	<b>Year 2010</b>				<b>Year 2020</b>			
	<b>Stationary</b>		<b>Mobile</b>		<b>Stationary</b>		<b>Mobile</b>	
	<b>Summer</b>	<b>Winter</b>	<b>Summer</b>	<b>Winter</b>	<b>Summer</b>	<b>Winter</b>	<b>Summer</b>	<b>Winter</b>
ROC	0.63	0.51	2.39	1.62	0.63	0.51	1.48	0.94
NO <sub>x</sub>	0.28	0.26	0.99	1.60	0.28	.026	0.64	1.04
CO	1.21	0.11	19.21	16.86	1.21	0.11	13.64	12.01
PM <sub>10</sub>	0.00	0.00	1.02	1.02	0.00	0.00	1.02	1.02
SO <sub>x</sub>	0.00	0.00	0.01	0.01	0.00	0.00	0.01	0.01

Source: URBEMIS 2001

None of these emissions exceed the **APCD Significance Thresholds** or the APCD thresholds for implementation of mitigation measures. Operation of Phase D of the proposed project will generate less than significant emissions and will not violate any air quality standards. This analysis will be revisited during subsequent project-level environmental review of the CES and WC projects.

As shown in *Tables 7.5, 7.6, and 7.7*, the operational emissions of each individual project phase will not violate any air quality standards. *Table 7.8* shows the aggregated operational emissions of these three phases.

**Table 7.8**  
**Aggregate Unmitigated Operational Emissions**

<b>Pollutant</b>	<b>Emissions by Year and Season</b>							
	<b>Year 2010</b>				<b>Year 2020</b>			
	<b>Stationary</b>		<b>Mobile</b>		<b>Stationary</b>		<b>Mobile</b>	
	<b>Summer</b>	<b>Winter</b>	<b>Summer</b>	<b>Winter</b>	<b>Summer</b>	<b>Winter</b>	<b>Summer</b>	<b>Winter</b>
ROC	0.79	0.61	14.61	10.46	0.79	0.61	9.11	6.19
NO <sub>x</sub>	1.28	1.26	5.32	8.25	1.28	1.26	3.95	6.31
CO	1.58	0.5	89.09	81.75	1.58	0.5	78.70	71.24
PM <sub>10</sub>	0.00	0.00	4.49	4.49	0.00	0.00	5.58	5.58
SO <sub>x</sub>	0.00	0.00	0.04	0.03	0.00	0.00	0.05	0.04

Source: URBEMIS 2001

None of the aggregated emission estimates exceed the **APCD Significance Thresholds**, although Mobile Source emissions of ROC in Summer 2010 and Winter 2010 exceed the thresholds for implementation of mitigation measures by 4.61 pounds per day and 0.46 pounds per day respectively. As stated above, elements of the LDB and AJC will serve to improve opportunities for use of alternative transportation, thus potentially lowering the actual air pollutant emissions. The construction projects also incorporate the following design elements that will serve to minimize emissions:

- Electrical outlets shall be provided around building perimeters to accommodate electric landscape equipment.

- Energy-efficient technology shall be incorporated in all construction (e.g., insulations, window glazing and or shading, ventilation, etc.).
- Energy-efficient heating/cooling units and appliances (cooking equipment, refrigerators, furnaces, and boiler units), including low NO<sub>x</sub> water heaters, as appropriate, and HVAC units equipped with a catalyst system that can convert up to 70% of ground level O<sub>3</sub> that passes over the condenser coils into oxygen (i.e., the PremAir system), if such system is available and economically feasible at the time building permits are issued. This system is considered feasible if the additional cost is less than 10 percent of the base HVAC unit. Where water heaters are proposed in new construction, use of low NO<sub>x</sub> water heaters is required per District Rule 225.
- Landscaping plans shall incorporate native and/or drought-resistant species (plants, trees, and bushes) to reduce the demand for use of landscape maintenance equipment.
- Existing plants and trees shall be preserved to the extent feasible, including preservation of the onsite oak woodland habitat, to provide a biological means of reducing air contaminants in the vicinity.

In addition, the County is currently implementing plans to construct a justice center in southern Placer County. It is anticipated that by 2010, 249 existing employees at DeWitt Center will be transferred to the South Placer Justice Center. With this transfer there will be a net decrease in employment at DeWitt Center within the departments housed in the proposed new buildings of 69 employees. Therefore, the total number of daily trips at DeWitt Center will decrease by approximately 600 trips compared to existing conditions. Under this scenario, vehicular emissions in 2010 will be less than estimated in this analysis.

***Cumulatively Considerable Net Increase of Any Criteria Pollutant for Which the Project Region is Non-Attainment.*** Placer County is currently in non-attainment for PM<sub>10</sub> and is designated as severe non-attainment for O<sub>3</sub>, which is formed through reactions between NO<sub>x</sub> and ROC. NO<sub>x</sub> and ROC are primarily emitted from mobile sources. As discussed above, implementation of the proposed project and other current facility plans will result in a net decrease of employees at DeWitt Center by 2010, which will translate to a decline in pollutant emissions associated with vehicle usage. Pollutant emissions are further discussed under Impact 7.1. Mitigation measures are provided to control all emissions.

Project-generated PM emissions are expected to result from a combination of construction and demolition activities, vehicle exhaust, and wind-blown dust. Demolition and construction project emissions would occur only in the short-term. Upon completion of construction and demolition projects, no significant continued PM emissions are anticipated. As provided in *Mitigation Measure 5.2a (CHAPTER 5, AESTHETICS)*, all demolition sites not currently proposed for new construction will be revegetated and/or covered to prevent wind-blown dust emissions. This mitigation measure is incorporated in this chapter by reference as *Mitigation Measure 7.1b*.

***Create Objectionable Odors Affecting a Substantial Number of People.*** The proposed project includes building demolition and construction of new office buildings and shelter/transitional housing facilities. The demolition, construction, and operation of the proposed new facilities are not expected to create objectionable odors within the project vicinity.



### Potentially Significant Impacts

#### Impact 7.1: Violate Any Air Quality Standard or Contribute Substantially to an Existing or Projected Air Quality Violation as a Result of Construction Emissions.

Significance Before Mitigation:	Significant
Mitigation:	7.1a through 7.1j
Significance After Mitigation:	Significant and Unavoidable with respect to NO <sub>x</sub> ; Less than Significant with respect to other pollutants

Air pollutant emissions that occur during demolition and construction activities would be generated by operation of heavy equipment, earthwork, and paving. Demolition could also generate dust emissions. As with operational emissions, the **APCD Significance Thresholds** shown in *Table 7.4* serve as local air quality standards. Placer County is designated as non-attainment for PM<sub>10</sub> and severe non-attainment for O<sub>3</sub>, which is formed through reactions between NO<sub>x</sub> and ROC. Emissions of these pollutants in excess of the **APCD Significance Thresholds** could contribute to the existing air quality violation.

### Equipment Emissions

During demolition, grading, and construction activities, heavy equipment operation would produce exhaust emissions. During their operations, tractors, dozers, scrapers, etc., would emit those air contaminants described previously as well as nitrogen and sulfur oxide compounds (NO<sub>x</sub> and SO<sub>x</sub>). *Table 7.9* shows the EPA-AP-42 equipment emission factors by equipment type.

*Table 7.9*

#### Construction Equipment Exhaust Emissions (grams/horsepower-hour)

Equipment	CO	NO <sub>x</sub>	PM <sub>10</sub>	SO <sub>x</sub>
<b>Dozer-Diesel</b>	2.8	9.6	0.66	0.93
<b>Tractor-Diesel</b>	6.8	10.10	1.05	0.85
Gasoline 4-Stroke Engine <sup>a</sup>	257.4	4.79	0.06	0.25
<b>Loader-Diesel</b>	6.8	10.10	1.05	0.85
Gasoline 4-Stroke Engine <sup>a</sup>	257.4	4.79	0.06	0.25
<b>Backhoe-Diesel</b>	6.8	10.10	1.05	0.85
Gasoline 4-Stroke Engine <sup>a</sup>	257.4	4.79	0.06	0.25
<b>Trencher-Diesel</b>	9.14	10.02	1.44	0.93
Gasoline 4-Stroke Engine <sup>a</sup>	257.4	4.79	0.06	0.25
<b>Grader-Diesel</b>	3.8	9.6	1.00	0.87
<b>Dump Truck-Diesel</b>	2.8	9.6	1.44	0.89
Gasoline 4-Stroke Engine <sup>a</sup>	376.2	1.92	0.22	0.25
<b>Compactor/Roller-Diesel</b>	3.10	9.30	0.78	1.00
Gasoline 4-Stroke Engine <sup>a</sup>	383.8	2.11	0.22	0.28
<b>Concrete Paver-Diesel</b>	4.57	10.02	0.90	0.93
<b>Off-Road Truck-Diesel</b>	2.8	9.6	0.80	0.89
<b>Other Construction Equipment-Diesel</b>	9.20	11.01	1.44	0.93
Gasoline 4-Stroke Engine <sup>a</sup>	257.4	4.79	0.06	0.25

<sup>a</sup> Exhaust emissions are adjusted for in-use effects.

Source: EPA-AP-42, November 1991

### **Fugitive Dust During Construction**

In addition to emissions from the demolition and construction equipment (i.e., vehicle exhaust), the physical actions of demolition, grading, and construction can generate dust emissions. Heavy construction equipment movements on unpaved terrain and exposure of areas of a project site to wind are two sources of airborne dust. Building demolition can also generate dust emissions. Construction scheduling, the type of equipment used, weather conditions, and site conditions are some of the factors that determine how much dust is generated. Dust emissions are estimated by the URBEMIS 2001 program based on these factors. The dust generated by site disturbance consists of both large (greater than 30 microns) and small particles (10 microns and less). The larger particles settle either at the generation site or in the vicinity of the site. The smaller particles (PM<sub>10</sub> and PM<sub>2.5</sub>) do not settle as quickly and are easily transported by the wind.

Additionally, DeWitt Center occurs within an area known to support some soils that contain naturally occurring asbestos. While the USGS Soil Conservation Service Soil Survey of Placer County and the preliminary geotechnical investigations for the LDB and AJC sites do not indicate that any naturally occurring asbestos is known to occur within DeWitt Center, naturally occurring asbestos could be identified in the field during site preparation and construction activities. Naturally occurring asbestos has been identified at nearby sites, including at a location on nearby Bell Road (Vintze pers. comm.). Should naturally occurring asbestos be found at any of the proposed project sites, grading of the site could disturb the asbestos and release it into the air. *Mitigation Measure 7.1a* provides standard Best Management Practices for controlling both fugitive dust and naturally occurring asbestos emissions during site preparation.

### **URBEMIS 2001 Inputs for Analysis of Demolition/Construction Emissions**

The URBEMIS 2001 program estimates the anticipated levels of ROC, NO<sub>x</sub>, CO, PM<sub>10</sub>, and SO<sub>x</sub> emissions to be generated by site preparation, demolition, and construction activities. Emissions are the same for activities occurring during summer or winter. This estimate is based on the square footage of building demolition, average amount of demolition per day, year and length of time of the construction period, size of the project site, amount of grading and paving to occur on a daily basis, the numbers and types of construction vehicles, and use of Best Available Control Technology and other mitigation measures. The numbers and types of construction vehicles were estimated by the Department of Facility Services based on the size of each project phase and the proposed construction. Emission quantities from construction equipment are dependent upon such factors as type and age of equipment used and the length of time this equipment is operated. The emission factors related to these variables are programmed into URBEMIS 2001 and are calculated automatically. The URBEMIS 2001 analysis of implementation of mitigation measures is limited to the measures programmed into the model. No modeling is available for implementation of mitigation measures not included in the URBEMIS program. Details of the changes made to the default variables used to estimate emissions from site preparation and construction activities are included in Appendix C.

There are ten distinct phases in the proposed facility plan, many of which overlap within the plan's seven year timeframe. The following analysis of air pollutant emissions evaluates demolition and construction emissions for each project phase individually and provides an

aggregate of emissions for each year. This analysis is based on the plan phases as described in CHAPTER 2, PROJECT DESCRIPTION.

### Impact Analysis by Project Phase

#### Phase A

Phase A includes the demolition of Buildings 2, 3, 4, and 5 of the Bell Gardens Apartments, as well as the wastewater treatment plant (WWTP) facilities. Buildings 2, 3, and 5 each consist of 12,400 square feet, while Building 4 consists of 13,400 square feet. At the WWTP site, two small buildings consisting of a total of 650 square feet, and one building consisting of 4,200 square feet are proposed for demolition. In addition to the buildings at the WWTP site, scattered concrete pads and tanks are also proposed for demolition. An average building height of 20 feet was assumed for this analysis. Phase A does not include any building construction.

This phase is expected to occur between March 2003 and May 2004. The initial action in the phase is the relocation of existing residents of the Bell Gardens Apartments. The relocation is expected to conclude in November 2003, allowing demolition of Buildings 2, 3, 4, and 5 to proceed between December 2003 and February 2004. This will include demolition of 50,600 square feet. Demolition of the WWTP site would occur throughout the period between December 2003 and May 2004.

The results of the URBEMIS 2001 modeling for Phase A are shown in *Table 7.10*. The values in this table represent the emissions expected before any mitigation is applied. Emissions of NO<sub>x</sub> for the total phase exceed the **APCD Significance Thresholds**. No other emissions exceed the Significance Thresholds or the thresholds for implementation of mitigation measures.

**Table 7.10**  
**Phase A Pounds Per Day Emissions, Unmitigated**

<b>Pollutant</b>	<b>Buildings 2, 3, 4, and 5 Demolition Emissions</b>	<b>WWTP Demolition Emissions</b>	<b>Total Emissions</b>
ROC	4.24	3.11	7.35
NO <sub>x</sub>	60.18	49.96	110.14
CO	0.00	0.00	0.00
PM <sub>10</sub>	16.65	9.05	25.70
SO <sub>x</sub>	5.24	4.12	9.36

Source: URBEMIS 2001

The URBEMIS 2001 program provides estimates of the reduction in emissions following implementation of selected mitigation measures. The measures applicable to Phase A include watering of the project sites a minimum of twice daily, watering of any unpaved haul routes three times per day, reducing vehicle speed on unpaved routes to 15 miles per hour or less, and proper maintenance of equipment. The estimated emissions following implementation of these measures are shown in *Table 7.11*.

**Table 7.11**  
**Phase A Pounds Per Day Emissions, Mitigated**

<b>Pollutant</b>	<b>Buildings 2, 3, 4, and 5 Demolition Emissions</b>	<b>WWTP Demolition Emissions</b>	<b>Total Emissions</b>
ROC	4.04	2.96	7.00
NO <sub>x</sub>	57.17	47.46	104.63
CO	0.00	0.00	0.00
PM <sub>10</sub>	12.25	6.79	19.04
SO <sub>x</sub>	4.98	3.91	8.35

Source: URBEMIS 2001

Emissions of NO<sub>x</sub> still exceed the **APCD Significance Threshold** by 22.63 pounds per day. This represents a significant short-term impact. Additional mitigation measures have been provided in Section 7.4 to reduce these emissions as much as feasible.

### **Phase B**

Construction of the LDB comprises Phase B. This will involve limited grading across the 9-acre project site, construction of a ±95,000 square foot building with associated landscaping, and paving ±97,200 square feet of parking lot. The construction is expected to occur between May 2004 and November 2005. The URBEMIS 2001 program limits construction periods to one year, so this analysis period assumes construction to occur throughout 2004. As the anticipated construction period is approximately 19 months and this analysis assumes construction would occur within a 12-month period, the actual emissions measured in pounds per day are expected to be lower than the emission estimates. This is because the longer construction period would allow a reduction in the intensity of daily activities.

The results of the URBEMIS 2001 modeling for Phase B are shown in *Table 7.12*. The values in this table represent the emissions expected prior to implementation of mitigation measures. Emissions of NO<sub>x</sub> during construction exceed the **APCD Significance Thresholds**, while emissions of ROC and SO<sub>x</sub> exceed the Placer County APCD thresholds for implementation of mitigation measures.

**Table 7.12**  
**Phase B Pounds Per Day Emissions, Unmitigated**

<b>Pollutant</b>	<b>Construction and Paving Emissions</b>
ROC	16.44
NO <sub>x</sub>	140.90
CO	0.52
PM <sub>10</sub>	19.88
SO <sub>x</sub>	15.63

Source: URBEMIS 2001

The construction mitigation measures applicable to Phase B include watering of the project site a minimum of twice daily, watering of any unpaved haul routes three times per day, reducing

vehicle speed on unpaved routes to 15 miles per hour or less, and proper maintenance of equipment. The amounts of emissions following implementation of these measures are shown in *Table 7.13*.

**Table 7.13**  
**Phase B Pounds Per Day Emissions, Mitigated**

<b>Pollutant</b>	<b>Construction, Paving, and Excavation Emissions</b>
ROC	15.90
NO <sub>x</sub>	134.07
CO	0.52
PM <sub>10</sub>	13.37
SO <sub>x</sub>	14.86

Source: URBEMIS 2001

As the construction emissions of NO<sub>x</sub> exceed the Placer County **APCD Significance Thresholds** by 52.45 pounds per day, these emissions represent a significant short-term impact on air quality. Emissions for ROC and SO<sub>x</sub> continue to exceed the thresholds for implementation of mitigation measures, however this is not a significant impact of the project as these emissions are below the **APCD Significance Thresholds**. Additional mitigation measures have been included in this EIR to reduce all emissions to the extent feasible. As discussed above, the construction period for this phase is expected to exceed one year, which will reduce the actual daily emission levels.

### **Phase C**

Phase C consists of construction of the AJC. This will involve grading across the 10-acre project site, and construction of ±95,000 square feet of buildings with associated landscaping. Paving associated with the AJC includes a 1,200 square foot entrance patio, 4,800 square foot employee use patio, and ±140,000 square feet of paving for the parking lot area. Phase C also includes expansion of the stormwater detention basin west of the Main Jail. The basin is proposed to be expanded by 80,000 cubic feet, requiring excavation on approximately one-half of an acre. This construction and excavation is expected to occur between June 2004 and December 2005. As above, the URBEMIS 2001 program limits construction periods to one full year. This will shorten the proposed construction period by six months. To obtain the most accurate emissions estimates, Phase C has been evaluated in two segments. The building construction and detention basin excavation are analyzed as occurring throughout 2004 and all paving is analyzed as occurring in six months of 2005, as shown in *Table 7.14*. While this is not a perfectly accurate expression of the proposed construction schedule, it provides a reasonable estimate of project emissions.

Without implementation of mitigation measures, emissions of NO<sub>x</sub> during 2004 construction exceed the **APCD Significance Thresholds** by 1.78 pounds per day and NO<sub>x</sub> emissions during 2005 paving exceed the standard by 11.80 pounds per day. Emissions of ROC and SO<sub>x</sub> during 2004 construction exceed the Placer County APCD thresholds for implementation of mitigation measures.

**Table 7.14**  
**Phase C Pounds Per Day Emissions, Unmitigated**

<b>Pollutant</b>	<b>Building Construction and Excavation 2004</b>	<b>Paving 2005</b>
ROC	12.06	7.14
NO <sub>x</sub>	83.78	93.80
CO	0.52	0.52
PM <sub>10</sub>	16.56	7.06
SO <sub>x</sub>	10.16	9.35

Source: URBEMIS 2001

The construction mitigation measures applicable to Phase C are the same as for Phase B. The amounts of emissions following implementation of these measures are shown in *Table 7.15*.

**Table 7.15**  
**Phase C Pounds Per Day Emissions, Mitigated**

<b>Pollutant</b>	<b>Building Construction 2004</b>	<b>Paving 2005</b>
ROC	11.73	6.80
NO <sub>x</sub>	79.81	89.13
CO	0.52	0.52
PM <sub>10</sub>	9.42	6.71
SO <sub>x</sub>	9.67	8.89

Source: URBEMIS 2001

As the emissions of NO<sub>x</sub> for the paving activities still exceed the **APCD Significance Threshold** by 7.13 pounds per day, these emissions represent a significant short-term impact on air quality. Additional mitigation measures to reduce emissions have been included in this EIR.

### **Phase D**

Phase D consists of rough grading and provision of infrastructure at the CES and WC sites. This will involve minor grading across the 7-acres that comprise the project sites, digging of utility line trenches, and paving of the site access roadway (approximately 26,000 square feet of paving). Emissions resulting from facility construction have also been estimated in order to provide a programmatic level of assessment of the future construction. Construction assumptions were based on preliminary site plans. Subsequent project-level environmental review, including analysis of air pollutant emissions, of the proposed facilities will be prepared prior to construction.

The results of the URBEMIS 2001 modeling for Phase D are shown in *Table 7.16*. The proposed construction period extends from August 2004 through July 2006. As in Phase C, this analysis separates the grading and paving activities from the construction activities, with grading and paving occurring in 2004 and construction occurring in 2005. Again, this is not a perfectly accurate representation of the anticipated project schedule but does provide a reasonable estimate of project impacts.

The values in *Table 7.16* represent the unmitigated emissions for each year. In Phase D year 2004 activities, no emissions exceed the **APCD Significance Thresholds**, while in year 2005 activities emissions of NO<sub>x</sub> exceed the **APCD Significance Thresholds** by 3.79 pounds per day. Emissions of NO<sub>x</sub> in 2004 exceed the APCD thresholds for implementation of mitigation measures by 65.44 pounds per day. Emissions of ROC exceed the Placer County APCD thresholds for implementation of mitigation measures by 2.18 pounds per day in year 2004 and 3.30 pounds per day in 2005.

**Table 7.16**  
**Phase D Pounds Per Day Emissions, Unmitigated**

<b>Pollutant</b>	<b>Grading and Paving 2004</b>	<b>Building Construction 2005</b>
ROC	12.18	13.30
NO <sub>x</sub>	75.44	85.79
CO	0.15	0.15
PM <sub>10</sub>	17.31	14.52
SO <sub>x</sub>	5.84	9.78

Source: URBEMIS 2001

Construction mitigation measures applicable to Phase D include watering of the project site a minimum of twice daily, watering of any unpaved haul routes three times per day, reducing vehicle speed on unpaved routes to 15 miles per hour or less, and proper maintenance of equipment. The amounts of emissions following implementation of these measures are shown in *Table 7.17*.

**Table 7.17**  
**Phase D Pounds Per Day Emissions, Mitigated**

<b>Pollutant</b>	<b>Grading and Paving 2004</b>	<b>Building Construction 2005</b>
ROC	11.75	12.83
NO <sub>x</sub>	71.80	81.64
CO	0.15	0.15
PM <sub>10</sub>	10.53	11.83
SO <sub>x</sub>	5.55	9.30

Source: URBEMIS 2001

Following implementation of the mitigation measures listed above emissions of NO<sub>x</sub> in both year 2004 and 2005 are below the **APCD Significance Thresholds**, but still above the thresholds for implementation of mitigation measures. Emissions of ROC also continue to be above the thresholds for implementation of mitigation measures. While these emissions do not represent a significant impact on air quality, additional mitigation measures have been included in this EIR to reduce all emissions as much as feasible.

### **Phase E**

Phase E consists of transferring of employees within DeWitt Center. No air quality impacts are anticipated as a result of these transfers.

### Phase F

Transfers of employees from Buildings 1, 7, and 8 and Temporary Structure 6 to the AJC will occur during Phase F. These transfers are scheduled for December 2005 through February 2006. These transfers will allow demolition of the vacated buildings to occur between February and April 2006. Temporary structures are not included in demolition estimates. Buildings 15 through 18, which will be vacated in Phase E, will also be demolished in Phase F between June 2006 and September 2006. Following building demolition, the expansion of the LDB parking lot will occur. This phase is broken down as follows: demolition of  $\pm 23,500$  square feet between February and April 2006, demolition of  $\pm 29,400$  square feet between June and September 2006, and paving of  $\pm 67,000$  square feet between March and August 2007.

The unmitigated emissions estimated by the URBEMIS 2001 modeling are shown in *Table 7.18*. In both portions of this Phase, NO<sub>x</sub> emissions slightly exceed the **APCD Significance Thresholds**.

**Table 7.18**  
**Phase F Pounds Per Day Emissions, Unmitigated**

<b>Pollutant</b>	<b>Demolition Emissions</b>	<b>Paving Emissions</b>
ROC	6.65	12.72
NO <sub>x</sub>	86.62	89.14
CO	0.00	0.00
PM <sub>10</sub>	12.73	13.09
SO <sub>x</sub>	9.83	7.53

Source: URBEMIS 2001

The applicable mitigation measures include watering of the project site a minimum of twice daily, watering of any unpaved haul routes three times per day, reducing vehicle speed on unpaved routes to 15 miles per hour or less, and proper maintenance of equipment. The amounts of emissions following implementation of these measures are shown in *Table 7.19*.

**Table 7.19**  
**Phase F Pounds Per Day Emissions, Mitigated**

<b>Pollutant</b>	<b>Demolition Emissions</b>	<b>Paving Emissions</b>
ROC	6.32	12.33
NO <sub>x</sub>	82.29	84.83
CO	0.00	0.00
PM <sub>10</sub>	10.60	9.17
SO <sub>x</sub>	9.34	7.16

Source: URBEMIS 2001

Implementation of the above listed mitigation measures provide small reductions in emissions, but NO<sub>x</sub> emissions remain 0.29 pounds per day above the **APCD Significance Thresholds** during demolition and 2.83 pounds per day above the **APCD Significance Thresholds** during paving. The NO<sub>x</sub> emissions represent a significant short-term impact of the proposed project.



Additional mitigation measures have been included in this EIR to reduce all emissions as much as feasible.

### **Phase G**

Phase G consists of transferring of employees within DeWitt Center. No air quality impacts are anticipated as a result of these transfers.

### **Phase H**

Transfers occurring during Phase G will vacate Buildings 204B, 205B, 206B, and 207A&B, which are proposed for demolition in Phase H. This phase is expected to occur between October 2006 and January 2007 and includes demolition of ±22,900 square feet of buildings. Demolition sites will be revegetated and/or covered following demolition, pursuant to *Mitigation Measure 7.1b*. This will limit wind blown dust emissions from the sites.

The results of the URBEMIS 2001 modeling for Phase H are shown in *Table 7.20*. The values in this table represent the unmitigated emissions. As in Phase F, NO<sub>x</sub> emissions in Phase H exceed the **APCD Significance Thresholds**, while emissions of SO<sub>x</sub> exceed the Placer County APCD thresholds for implementation of mitigation measures.

**Table 7.20**  
**Phase H Pounds Per Day Emissions, Unmitigated**

<b>Pollutant</b>	<b>Demolition Emissions</b>
ROC	8.27
NO <sub>x</sub>	116.26
CO	0.00
PM <sub>10</sub>	19.75
SO <sub>x</sub>	13.59

Source: URBEMIS 2001

The construction mitigation measures applicable to Phase H are the same as in Phase F. The amounts of emissions following implementation of these measures are shown in *Table 7.21*.

**Table 7.21**  
**Phase H Pounds Per Day Emissions, Mitigated**

<b>Pollutant</b>	<b>Demolition Emissions</b>
ROC	7.86
NO <sub>x</sub>	110.45
CO	0.00
PM <sub>10</sub>	15.70
SO <sub>x</sub>	12.91

Source: URBEMIS 2001

Implementation of the above listed mitigation measures provide small reductions in emissions of NO<sub>x</sub> and SO<sub>x</sub>, but NO<sub>x</sub> emissions remain 28.45 pounds per day above the **APCD Significance Thresholds** and SO<sub>x</sub> emissions remain above the thresholds for implementation of mitigation measures. The NO<sub>x</sub> emissions represent a significant short-term impact of the proposed project. The SO<sub>x</sub> emissions do not represent a significant impact on air quality. Additional mitigation measures have been included in this EIR to reduce all emissions as much as feasible.

### **Phase I**

Phase I consists of transferring of employees within DeWitt Center and to the South Placer Justice Center. No air quality impacts are anticipated as a result of these transfers.

### **Phase J**

Transfers occurring during Phase I will vacate Buildings 212A&B through 217A&B, which are proposed for demolition in Phase J. This phase is scheduled for December 2007 through March 2008 and includes demolition of ±50,500 square feet of buildings. As above, demolition sites will be revegetated and/or covered following demolition, pursuant to *Mitigation Measure 7.1b*. This will limit wind blown dust emissions from the sites.

The unmitigated emissions for Phase J as calculated by URBEMIS 2001 are shown in *Table 7.22*. As in Phases F and H, NO<sub>x</sub> emissions in Phase J exceed the **APCD Significance Thresholds**, while emissions of ROC and SO<sub>x</sub> exceed the Placer County APCD thresholds for implementation of mitigation measures.

**Table 7.22**  
**Phase J Pounds Per Day Emissions, Unmitigated**

<b>Pollutant</b>	<b>Demolition Emissions</b>
ROC	10.43
NO <sub>x</sub>	119.94
CO	0.00
PM <sub>10</sub>	24.08
SO <sub>x</sub>	13.59

Source: URBEMIS 2001

The construction mitigation measures applicable to Phase J are the same as above — watering of the project site a minimum of twice daily, watering of any unpaved haul routes three times per day, reducing vehicle speed on unpaved routes to 15 miles per hour or less, and proper maintenance of equipment. The amounts of emissions following implementation of these measures are shown in *Table 7.23*.

**Table 7.23**  
**Phase J Pounds Per Day Emissions, Mitigated**

<b>Pollutant</b>	<b>Demolition Emissions</b>
ROC	9.91
NO <sub>x</sub>	113.95
CO	0.00
PM <sub>10</sub>	19.87
SO <sub>x</sub>	12.91

Source: URBEMIS 2001

Implementation of the above listed mitigation measures provide small reductions in emissions of ROC, NO<sub>x</sub>, and SO<sub>x</sub>, but the NO<sub>x</sub> emissions remain 31.95 pounds per day above the **APCD Significance Thresholds** and the SO<sub>x</sub> emissions remain above the thresholds for implementation of mitigation measures. The NO<sub>x</sub> emissions represent a significant short-term impact of the proposed project. Additional mitigation measures have been included in this EIR to reduce all emissions.

#### **Aggregate Emissions by Project Year**

Phases B, C, and D have substantial overlap in construction timing. The previous analyses considered construction emissions separately for each phase. *Table 7.24* considers the combined emissions for each project year in which project phases overlap. While Phase A is scheduled to occur during year 2004, Phase A activities do not overlap Phases B, C, and D. Therefore Phase A is excluded from *Table 7.24*. Year 2004 includes all of Phase B, construction of the AJC and excavation of the detention basin (Phase C), and rough grading and paving at the CES and WC sites (Phase D). Year 2005 includes paving at the AJC and construction of the CES and WC facilities. Phases F and H occur in Year 2006 but do not overlap, and therefore are not included in *Table 7.24*.

**Table 7.24**  
**Aggregate Mitigated Pounds Per Day Emissions by Project Year**

<b>Pollutant</b>	<b>Emissions</b>	
	<b>2004</b>	<b>2005</b>
ROC	39.38	19.63
NO <sub>x</sub>	285.68	170.77
CO	1.19	0.67
PM <sub>10</sub>	33.32	18.54
SO <sub>x</sub>	30.08	18.19

Source: URBEMIS 2001

Emissions of NO<sub>x</sub> in years 2004 and 2005 exceed the **APCD Significance Threshold**. This is a significant impact of the proposed project. *Mitigation Measures 7.1a* through *7.1h* will minimize NO<sub>x</sub> emissions to the extent feasible. It is likely that emissions of NO<sub>x</sub> throughout the construction schedule will, especially in year 2004, still exceed the **APCD Significance**

**Thresholds.** This is a significant and unavoidable impact of the proposed project. Emissions of all other pollutants do not exceed the **APCD Significance Thresholds**, but ROC and SO<sub>x</sub> emissions do exceed the APCD thresholds for implementation of mitigation measures in both 2004 and 2005. While these emission levels do not represent a significant project impact, mitigation measures have been provided to minimize all emissions.

### **Impact 7.2: Exposure of Sensitive Receptors to Substantial Pollutant Concentrations**

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<b>Significance Before Mitigation:</b>	Significant
<b>Mitigation:</b>	Implementation of Mitigation Measures 7.1a through 7.1j will also address Impact 7.2
<b>Significance After Mitigation:</b>	Significant and Unavoidable with respect to NO <sub>x</sub> ; Less than Significant with respect to other pollutants

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Population groups with high sensitivity to exposure to air pollutants include children, the elderly, and people with other health issues, such as respiratory or cardiovascular disease. Sensitive receptors in the project area include the following facilities at DeWitt Center:

- Alder Grove School (Building 216A) in the eastern portion of DeWitt Center,
- Bell Garden Apartments (Buildings 9 and 10) in the northern portion of DeWitt Center (Buildings 2 and 3 will be vacated prior to occurrence of any project-generated noises, Buildings 4 and 5 are currently vacant),
- Charis Youth Center (Building 318) in the southeastern portion of DeWitt Center,
- Children's Receiving Home (Building 217) in the eastern portion of DeWitt Center,
- Components of the detention facilities: Main Jail (Building 520), minimum security (Buildings 302A, 303), and Juvenile Hall (Building 530),
- Health and Human Services department medical clinics (Buildings 108A, 117B, and 209) in the eastern portion of DeWitt Center,
- Health and Human Services department school (Building 310) in the southeastern portion of DeWitt Center,
- O'Brien Child Development Center (Building 311B) in the eastern portion of DeWitt Center,
- A shelter (Building 203A) in the center of DeWitt Center,
- Sierra Council on Alcoholism Treatment Center (Building 202) in the center of DeWitt Center,
- Sierra Vista High School (Building 203B) in the center of DeWitt Center, and
- Multi-Purpose Senior Center (Buildings 312B, 313, 314) in the eastern portion of DeWitt Center.

Offsite air pollutant-sensitive receptors in the vicinity include:

- Senior housing approximately 400 north and 900 feet northeast of the LDB site,

- Medical offices located approximately 200 feet north, 300 feet northeast, and 1,000 feet east of the LDB site,
- Rock Creek School located approximately 1,600 feet northeast of the LDB site,
- Auburn Elementary School located approximately 1,650 feet south of the AJC site,
- Convalescent housing located approximately 300 feet northwest of the LDB site,
- Residential neighborhoods on Bell Road north of DeWitt Center (at least 510 feet north of the LDB site),
- Residential neighborhoods on Atwood Road south of DeWitt Center (at least 600 feet south of the AJC site), and
- Residential neighborhood on Wilson Drive west of DeWitt Center (at least 300 feet west of the LDB site).

As discussed in Impact 7.1, some pollutant emissions associated with demolition, construction, and paving activities are expected to be significant, particularly NO<sub>x</sub> emissions during the construction phases in years 2004 and 2005. Exposure to NO<sub>x</sub> and to O<sub>3</sub>, which is formed through reactions between NO<sub>x</sub> and VOC, can result in permanent damage to lung development and function. The mitigation measures provided for Impact 7.1 will minimize pollutant emissions to the extent feasible.

## **7.4 MITIGATION MEASURES**

### **Violates Any Air Quality Standard or Contribute Substantially to an Existing or Projected Air Quality Violation as a Result of Construction Emissions**

**Mitigation Measure 7.1a:** The County shall incorporate Best Management Practices to control erosion during demolition at the Land Development Building site, during construction at the sites of the Land Development Building and Auburn Justice Center, during rough grading and installation of infrastructure at the Children's Emergency Shelter and Women's Center sites, and during project operation. A Construction Emission, Asbestos Dust, Fugitive Dust, and Erosion Control Plan shall be submitted for review and approval to the Placer County Air Pollution Control District prior to the issuance of any grading permits.

The Asbestos Dust Control portion of the Plan shall be prepared and implemented in accordance to state regulation "Asbestos Airborne Toxic Control measure for Construction, Grading, Quarrying, and Surface Mining Operations" (CCR Title 17 Section 93105). In addition, the Placer County Air Pollution Control District will require the presence of a qualified geologist or geotechnical engineer during major excavation and grading who can identify naturally occurring asbestos. If asbestos is found in concentrations greater than 5 percent, the material shall not be used as surfacing material as stated in state regulation "Asbestos Airborne Toxic Control Measure - Asbestos Containing Serpentine" (CCR Title 17 Section 93106). The material with naturally occurring asbestos in such concentrations can be reused at the site for subgrade material covered by other non-asbestos-containing material.

However, the local regulatory agency should provide approval for the reuse of this material on site.

The Construction Emission, Asbestos Dust, Fugitive Dust, and Erosion Control Plan shall include the following Best Management Practices for erosion control shall include, but may not be limited to, the following measures:

- a. Control for bulk material from the exterior surfaces of equipment falling on paved public roads (track-out) including:
  - 1 Removing any visible track-out from a paved public road at any location where vehicles exit the work site.
  - 2 Installing one of the following track-out prevention measures:
    - i. A gravel pad designed to clean the tires of exiting vehicles,
    - ii. A tire shaker,
    - iii. A wheel washer, or
    - iv. Any other measure as effective as the measures listed above.
- b. Keep active storage piles adequately wet or covered with tarps.
- c. Control disturbed surface areas and storage piles that will remain inactive for more than seven (7) days using one or more of the following methods:
  - 1 Keep surfaces adequately wet,
  - 2 Establish and maintain surface crusting,
  - 3 Apply chemical dust suppressants or chemical stabilizers,
  - 4 Cover with tarp or vegetative cover,
  - 5 Install wind barriers of fifty percent porosity around three sides of a storage pile,
  - 6 Install wind barriers across open areas, or
  - 7 Any other measure as effective as the measures listed above.
- d. Control for traffic on onsite unpaved roads, parking lots, and staging areas including:
  - 1 Limiting maximum vehicle speed to fifteen miles per hour, and
  - 2 One or more of the following:
    - i. Water active operations sufficiently to keep the area adequately wet,
    - ii. Apply chemical dust suppressants,
    - iii. Maintain a gravel cover with a silt content that is less than five percent and asbestos content that is less than 0.25 percent to a depth of 3 inches on the surface being used for travel, or
    - iv. Any other measure as effective as the measures listed above.
- e. Control for earthmoving activities including one or more of the following:
  - 1 Pre-wet the ground to the depth of anticipated cuts,

- 2 Suspend grading operations when wind speeds are high enough to result in dust emissions crossing the property line,
- 3 Apply water prior to any land clearing,
- 4 Any other measure as effective as the measures listed above
- f. Control for offsite transport of excavated material, if needed, including:
  - 1 Maintaining trucks such that no spillage can occur from holes or other openings
  - 2 Adequately wetting loads and either:
    - i. Covering with tarps; or
    - ii. Loading such that material does not touch the front, back, or sides of the cargo compartment at any point less than 6 inches from the top and that no point of the load extends above the top of the cargo compartment.
- g. Post construction stabilization of disturbed areas using one or more of the following methods:
  - 1 Establish vegetative cover
  - 2 Paving
  - 3 Mulching or other ground cover
- h. Other measures deemed sufficient to prevent wind speeds of 10 miles per hour or greater from causing visible dust emissions.
- i. Construction contracts shall require contractors to:
  - 1 water all exposed surfaces three times per day,
  - 2 suspend or restrict construction activities during periods of high winds (25 miles per hour gusts or stronger),
  - 3 suspend or restrict construction activities during Spare the Air days, and
  - 4 Time grading activities to minimize the amount of exposed areas during the wet season.
  - 5 Maintain construction equipment according to manufacturer's recommendations.
  - 6 Use a vehicle inventory in which at least 20% of the heavy-duty off-road equipment is be powered by CARB-certified off-road engines, as follows:
 

175 hp – 750 hp	1996 and newer engines
100 hp – 174 hp	1997 and newer engines
50 hp – 99 hp	1998 and newer engines
- j. Open burning of vegetation removed for site preparation, construction activities, or infrastructure improvements shall not occur. Vegetative material shall be chipped, stockpiled onsite, or delivered to waste-to-energy facilities.

- k. The final landscaping plans for the Auburn Justice Center shall include landscaping treatment for the cut and fill banks to minimize soil erosion in these areas. Landscaping materials shall include drought-tolerant ground cover as well as a variety of trees and shrubs. Areas where planting or hydroseeding does not occur shall be covered with a mulch type of material, such as wood chips, or an inorganic ground cover such as rock or gravel.

**Mitigation Measure 7.1b:** Implement *Mitigation Measure 5.2a*, which requires revegetation and/or covering of demolition sites to minimize erosion and wind blown dust emissions.

**Mitigation Measure 7.1c:** Implement *Mitigation Measure 5.2b*, which requires tree planting in parking lots to attain 50% shading of parking areas within 15 years of building permit issuance.

**Mitigation Measure 7.1d:** The following construction management techniques shall be implemented where feasible:

- a. Extend the construction and/or demolition period outside of the ozone period of May through October, with the permission of the Placer County Building Department;
- b. Minimize length of time construction equipment is left idling; and
- c. Reduce the hours of construction and/or demolition.

**Mitigation Measure 7.1e:** Low-emission stationary construction equipment shall be used onsite where feasible. Existing power sources or clean fuel generators shall be used instead of temporary power generators, where feasible. In order to operate a temporary mobile power generator in excess of 50kW output, a permit shall be obtained from the Placer County Air Pollution Control District.

**Mitigation Measure 7.1f:** The prime contractor shall submit to the Placer County Air Pollution Control District a comprehensive inventory (i.e., make, model, year, emissions rating) of all the heavy-duty off-road equipment (50 horsepower or greater) that will be used an aggregate of 40 or more hours for each individual demolition and construction project. District personnel, with assistance from the California Air Resources Board, will conduct initial Visible Emissions Evaluation of all heavy-duty equipment on the inventory list.

**Mitigation Measure 7.1g:** An enforcement plan shall be established by the Placer County Air Pollution Control District for weekly evaluations of project-related on- and off-road heavy-duty vehicle engine emission opacities, using standards as defined in California Code of Regulations, Title 13, Sections 2180 – 2194. An Environmental Coordinator, CARB-certified to perform Visible Emissions Evaluations, shall routinely evaluate project related off-road and heavy-duty on-road equipment emissions for compliance with this requirement. Operators of vehicles and equipment found to exceed opacity limits will be notified and the equipment must be repaired within 72 hours.



**Mitigation Measure 7.1h:** Construction equipment exhaust emissions shall not exceed Air Pollution Control District Rule 202 Visible Emission limitations.

**Mitigation Measure 7.1i:** Implement *Mitigation Measure 5.1c*, which requires planting of trees to replace mature trees impacted by the proposed project.

**Mitigation Measure 7.1j:** The project shall implement a mitigation program to reduce its contribution to significant cumulative air quality impacts occurring within Placer County. The project may develop its own mitigation program, subject to approval by the Placer County Air Pollution Control District, or the project can contribute an equal amount of funds into the District's offsite mitigation program. This would allow the District to reduce regional ozone precursor emissions by providing funding for the District to implement measures to reduce emissions from sources of air pollution not required by law to reduce their emissions. The required financial contribution will be calculated by the District based on the emission estimates in this EIR. The overall goal of the mitigation program is to allow reductions equivalent to 40% of the emissions generated by the proposed project. This may be accomplished through onsite mitigation measures, offsite mitigation measures, or a combination of both.

#### **Exposure of Sensitive Receptors to Substantial Pollutant Concentrations**

No additional mitigation measures are needed. This impact will be mitigated through implementation of Mitigation Measures 7.1a through 7.1j.

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